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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,609	02/27/2002	Jonathan J. Dinerstein	5178US	4138

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EXAMINER	
LEE, Y YOUNG	
ART UNIT	**PAPER NUMBER**
2613	

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/084,609	DINERSTEIN ET AL.	
	Examiner	Art Unit	
	Y. Lee	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) 1-7 and 20-24 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 8-19 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4/26/02.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-2, drawn to a method for predicting a search range, classified in class 375, subclass 240.12.

II. Claims 3-7, drawn to a method for selecting a search center, classified in class 375, subclass 240.26.

III. Claims 8-19, drawn to a method of motion searching a macroblock, classified in class 375, subclass 240.24.

IV. Claims 20-21, drawn to a method for compressing motion video images, classified in class 375, subclass 240.16.

V. Claims 22-24, drawn to a system for transmitting and receiving video images, classified in class 725, subclass 105.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II-V are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because a method for predicting a search range does not require the particulars of motion vector compensation, diamond search,

transmitting and receiving details. The subcombination has separate utility such as communication over a network.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, III, IV, or V, and vice versa, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. K. Johanson on 5/2/05 a provisional election was made without traverse to prosecute the invention of Group III, claims 8-19. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-7 and 20-24 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract

on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

8. The abstract of the disclosure is objected to because inclusion of implied phrases such as "the present invention" and "disclosed". Correction is required. See MPEP § 608.01(b).

Claim Objections

9. Claim 14 objected to because of the following informalities: line 2, "the" should be changed to --a--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 8-10, 12, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Ma (2002/0114394).

Ma, in Figures 2, 3, and 5, discloses the same method of motion searching a macroblock as specified in claims 8-10, 12, and 18 of the present invention, comprising

determining a predicted motion vector MV; calculating a predicted search range r; selecting a starting location (0, 0) based on the predicted motion vector and the predicted search range; selecting a search pattern (Fig. 1) based on the predicted motion vector; and diamond motion searching the macroblock (Figs. 2-3) from the selected starting location based on the selected search pattern to determine a best motion vector.

With respect to claims 9, 10, 12, and 18, Ma also discloses finding a median SVM or maximum difference (e.g. Eq. 6) for each component of motion vectors for three surrounding, already motion-searched macroblocks (Fig. 5); if the predicted search range is less than an integer threshold, then testing locations pointed to by three surrounding, already motion-searched macroblocks; selecting one of the locations having a lowest distortion as the starting location (Fig. 6(a)); if the predicted search range is greater than or equal to the integer threshold, then searching an integer number of locations located approximately r pixels from an initial search center in a radial pattern and approximately equidistant from one another along a circumference of a circle of radius r if a predicted search range is greater than or equal to an integer (e.g. Fig. 6(b)); selecting a best location from among the integer number locations MAP; selecting a small diamond search pattern if the predicted motion vector is less than or equal to a distance of l pixels (Fig. 2(b)); and selecting a large diamond search pattern if the predicted motion vector is greater than the distance of l pixels (Fig. 2(a)).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 11, 13-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma in view of MPEG-4 Diamond Search Specification.

Although Ma discloses substantially the same motion searching method, it is noted Ma differs from the present invention in that it fails to particularly quantify any numerical values as specified in claims 11, 13-17, and 19. The MPEG-4 Specification, however, teaches the concept of such well known standards wherein maximum difference SAD, threshold T, or any radius r, etc. maybe arbitrarily set according to the user's requirement.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having both the references of Ma and the MPEG-4 Standard before him/her, to exploit different design options as taught by the MPEG-4 Specification in the motion searching method of Ma, in order to conform with the diamond search regulations as set forth by the MPEG-4 standards.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. Lee whose telephone number is (571) 272-7334. The examiner can normally be reached on (571) 272-7334.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Y. Lee
Primary Examiner
Art Unit 2613

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